

# Claims

[c1] A large scale cleaning plug adaptable to be placed within an interior passageway of a tubular system, the plug comprising:

a generally conically shaped element having a first end and an opposite second end; said first end and said second end having a width selected to fit within the interior passageway of the tubular system; securing means connected to the conical element in proximity to the first end for controllably securing the conical element in desired positions within the interior passageway; and,  
a nozzle assembly mounted with the second end of the conical element; said nozzle assembly having a plurality of nozzle bodies extending from a plate preventing appreciable fluid flow therethrough and permitting a desired fluid flow through an exit opening of the nozzle bodies.

[c2] The invention of claim 1 in which the conical element is formed having an exterior shell composed of a flexible material.

[c3] The invention of claim 1 wherein the conical element in-

cludes an exterior shell of a treated canvas material.

- [c4] The invention of claim 1 wherein the conical element is formed having an exterior shell composed of a material essentially impervious to the fluid flow.
- [c5] The invention of claim 1 further including a substantially rigid frame body formed with the first end to maintain the first end in an open position permitting fluid flow into the first end of the conical element.
- [c6] The invention of claim 1 wherein the second end has a truncated ending permitting fluid flow therethrough.
- [c7] The invention of claim 1 wherein the nozzle bodies are comprise generally frustoconical shaped members extending from the plate preventing appreciable fluid flow therethrough and permitting a desired fluid flow through an exit opening of the frustoconical shaped members.
- [c8] The invention of claim 1 wherein the nozzle bodies include a check valve.
- [c9] Te invention of claim 1 wherein the nozzle bodies are composed of rubber.
- [c10] The invention of claim 1 wherein the cleaning plug consists of lightweight materials suitable for cleaning an interior of an air duct system.

- [c11] The invention of claim 1 wherein the second end having a width less than the width of the first end.
- [c12] The invention of claim 1 wherein the nozzle assembly is pivotally mounted to the conical element.
- [c13] An improved cleaning plug adaptable to be placed within an interior passageway of a tubular system of the type that includes a generally conically shaped element having a first end and an opposite second end, the first end and second end having a width selected to fit within the interior passageway of the tubular system, and securing means connected to the conical element in proximity to the first end for controllably securing the conical element in desired positions within the interior passageway, the improvement comprising:
- a nozzle assembly mounted with the second end of the conical element; said nozzle assembly having a plurality of nozzle bodies extending from a plate preventing appreciable fluid flow therethrough and permitting a desired fluid flow through an exit opening of the nozzle bodies.
- [c14] The invention of claim 13 wherein the nozzle bodies have a truncated ending permitting fluid flow therethrough.

[c15] The invention of claim 13 wherein the nozzle bodies are composed of rubber.

[c16] The invention of claim 13 wherein the nozzle assembly is pivotally mounted to the conical element.